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**Notice of Allowability**

Application No.

10/772,241

Examiner

Irakli Kiknadze

Applicant(s)

HEISMANN, BJOERN

Art Unit

2882

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Examiner's Amendment dated 04/18/2005.
2. ☒ The allowed claim(s) is/are 1-9 and 11.
3. ☒ The drawings filed on 06 February 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

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|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                                  |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date <u>04132005</u> . |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>2/6/04; 7/6/04</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment  |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                                     | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance                         |
|  | 9. <input type="checkbox"/> Other _____.   |

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## **DETAILED ACTION**

### **EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Donald J. Daley (Reg. No. 34,313) on April 18, 2005.

The application has been amended as follows:

Cancel claims 10 and 12.

### ***Allowable Subject Matter***

3. Claims 1-9 and 11 are allowed.

4. The following is an examiner's statement of reasons for allowance:

Claims 1-4 and 6-11 are allowed because prior art fails to teach or make obvious a method for calibration of a transformation of at least two X-ray attenuation values determined using different X-ray spectra for a material to a value for the density and a value for the atomic number of the material, the method comprising: determining a discrepancy between the determined values and the actual density and atomic number of a calibration sample; and using the discrepancy as the basis to produce a mapping rule which changes the values determined by the density function and the atomic

number function to the actual values as claimed in claim 1. Claims 2-4 and 6-12 are allowed by virtue of their dependence.

Claim 5 is allowed because prior art fails to teach or make obvious a computer program product for calibration of a transformation of at least two X-ray attenuation values, determined using different X-ray spectra, for a material, the computer program product, when run on a computer, causing the computer to perform the following steps: calculating a discrepancy between the values for the density and atomic number calculated for a calibration sample and the actual density and atomic number of the calibration sample; and producing a mapping rule which changes the values determined by the density function and the atomic number function to the actual values based on the discrepancy determined as claimed in claim 5.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Spitz et al (US Patent 6,362,471 B1), Adriaansz (US Patent 6,574,302 B2), Siffert et al. (US Patent 6,570,955 B1) and Suess et al. (US Patent 6,490,336 B1) teach methods and apparatus for determining a density of a volume in the image data sets with the calibration phantoms.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irakli Kiknadze whose telephone number is 571-272-2493. The examiner can normally be reached on 9:00- 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on 571-272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Irakli Kiknadze  
April 18, 2005

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EDWARD J. GLICK  
SUPERVISORY PATENT EXAMINER